

Staff Summary



Prepared by
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Container-on-Barge Service for Missouri Waterways

An In-House study by Organizational Results in cooperation with the Multimodal Operations Division

MoDOT Summary Statement

Port authorities, government agencies and shippers look to the feasibility of Container-on-Barge (COB) service to enhance the existing truck and rail transport methods. COB is cost-effective for shippers in both unit, operational and labor cost when compared to rail and truck. Potential obstacles Missouri faces with greater adoption of COB include: logistic readiness of ports, delivery requirements such as specific volumes needed for ports to sustain such service and inefficiencies backhauling empty containers. Economically, Missouri waterways are key components in advancing freight development in Missouri.

Existing COB Programs

Container-on-Barge service has been successfully developed and implemented in other states and countries. Evaluating established programs demonstrated that the initiation of COB service depends on the development of partnerships between key port operators and shipping stakeholders. Existing inland port programs utilizing COB are characterized by partnerships and exhibit a high level of benefits for all involved.

Supporting Infrastructure Guidelines

Minimum requirements documented in successful operations include:

- Dredging of key inland waterway segments
- On and off-load equipment (cranes, forklifts, RO-RO capability)
- Container storage and staging areas (land requirements)
- Consistency in navigable waterways
- Truck queue/waiting area (land requirements)
- Access to rails and highways

Additional requirements needed for efficient and competitive COB facilities focus on geographical attributes, funding and economic potential include:

- Access to quality railways
- Access to quality highways
- Investment in specialized container lifting equipment
- Investment in well developed and maintained infrastructure
- Investment in “shared vision” in economic development
- Homeland Security measures
- Leadership to initiate COB in Missouri

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Economic Impact

An example of COB's economic impact is the International Port of Memphis. In Shelby County, Tennessee, economic research demonstrated an annual economic impact of \$5.5 billion and 16,765 jobs associated with COB operations. (Marine Board Meeting, April 13, 2005) Additional economic benefits are:

- Shipping by water is about one-tenth of the trucking costs and one-quarter the rail cost of moving similar loads.
- Every full, standard tow of 15 barges carries as much tonnage as 900 full semi-trucks, a convoy of trucks 45 miles long.
- One tow requires less crew and support staff than the 900 trucks, which reduces labor costs of shipping.

Compare...

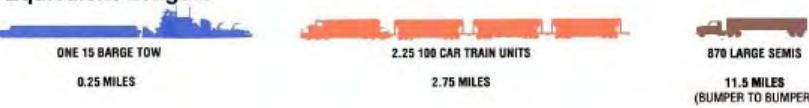
Cargo Capacity

ONE BARGE	ONE 15 BARGE TOW	JUMBO HOPPER CAR	100 CAR TRAIN UNIT	LARGE SEMI
1,500 TON	22,500 TON	100 TON	10,000 TON	26 TON
52,500 BUSHELS	787,500 BUSHELS	3,500 BUSHELS	350,000 BUSHELS	910 BUSHELS
453,600 GALLONS	6,804,000 GALLONS	30,240 GALLONS	3,024,000 GALLONS	7,865 GALLONS

Equivalent Units



Equivalent Lengths



Possible Location(s) for COB Facility

According to "Missouri Public Port Authorities: Assessment of Importance and Needs" – all current port facilities, with limited capital investments could operate as a COB facility. Documented successful COB operations have shown that initiative and solid partnerships will aid in moving this application forward.

Next Steps

At the Missouri Port Authority Association's 2006 Summer Conference the next five key steps to increase the viability of COB in Missouri were identified:

1. Partner with DED to focus on Marketing.
2. Facilitate key players to collaborate on effectiveness of COB in Missouri.
3. Visit with Successful ports.
4. Utilize existing technology to support COB for Missouri.
5. Organize a COB Development Plan.

MoDOT's Organizational Results Unit, Multimodal Operations and Missouri Department of Economic Development representatives are working to understand and prompt COB's market potential in Missouri.

